

IN THE CLAIMS

Claim 1 (currently amended): A driver system for a disk drive, comprising:

a switching circuit having an upper pair of switching devices and a lower pair of switching devices coupled in an H-bridge arrangement for switching current polarity through an inductive head;

a write drive circuit couple with said switching circuit and having transistor devices for providing current to said switching circuit; and

a pre-drive circuit coupled with said write drive circuit for providing an amplified signal thereto and having a pair of first voltage follower devices device coupled in a cascade arrangement to a second voltage follower device.

Claim 2 (original): The driver system of Claim 1, wherein each of said voltage follower devices comprise a plurality of transistors biased Class AB operable.

Claim 3 (original): The driver system of Claim 2, wherein each of said voltage follower devices further comprise a quiescent current reduction devices.

Claim 4 (original): The driver system of Claim 1, wherein each of said voltage follower devices comprise a first transistor, a second transistor, a third transistor and a fourth transistor operable in a Class AB biasing arrangement.

Claim 5 (original): The driver system of Claim 1 further comprising a reference circuit coupled with said pre-drive circuit for providing a differential ECL data signals to said pre-driver circuit.

Claim 6 (original): The driver system of Claim 5, wherein said reference circuit comprises:

an output transistor having a base, collector and emitter; and

a current device coupled with said base and collector for providing a compensation current to base.

Claim 7 (currently amended): A driver system for a disk drive, comprising:

a switching circuit having an upper pair of switching devices and a lower pair of switching devices coupled in an H-bridge arrangement for switching current polarity through an inductive head;

a write drive circuit couple with said switching circuit and having transistor devices for providing current to said switching circuit;

a pre-drive circuit coupled with said write drive circuit for providing an amplified signal thereto and having a pair of voltage follower devices coupled in a cascade arrangement; and

a reference circuit coupled with said pre-drive circuit for providing a differential ECL data signals to said pre-driver circuit

~~The driver system of Claim 5~~, wherein said reference circuit further comprises a Class AB operable current mirror coupled with said transistor emitter for stabilizing the voltage at increased switching speeds.

Claim 8 (original): The driver system of Claim 1, wherein each of said write drive circuit transistor devices comprises a pair of transistors each having a base, collector and emitter, wherein said bases and collectors are coupled in parallel and said emitters are coupled to bias resistors for reducing self-heating effects.

Claim 9 (original): The driver system of Claim 1, wherein said upper pair switching devices are transistors with a first node defined therebetween and each of said lower pair switching devices comprises a pair of transistors with a second node defined therebetween, wherein said first and second nodes are adapted to drive said inductive head.

Claim 10 (original): The driver system of Claim 9, wherein each of said pairs of transistors have a base and a collector coupled in parallel and having emitters coupled to bias resistors for reducing self-heating effects.

Claim 11 (currently amended): A preamplifier for driving an H-bridge switching circuit in a disk drive system, comprising:

a write drive circuit couple with said switching circuit and having transistor devices for providing current to said switching circuit; and

a pre-drive circuit coupled with said write drive circuit for providing an amplified signal thereto and having a pair of first voltage follower devices device coupled in a cascade arrangement to a second voltage follower device.

Claim 12 (original): The preamplifier of Claim 11, wherein each of said voltage follower devices comprise a plurality of transistors biased Class AB operable.

Claim 13 (original): The preamplifier of Claim 11, wherein each of said voltage follower devices further comprise a quiescent current reduction devices.

Claim 14 (original): The preamplifier of Claim 11, wherein each of said voltage follower devices comprise a first transistor, a second transistor, a third transistor and a fourth transistor operable in a Class AB biasing arrangement.

Claim 15 (original): The preamplifier of Claim 11 further comprising a reference circuit coupled with said pre-drive circuit for providing a differential ECL data signals to said pre-driver circuit.

Claim 16 (original): The preamplifier of Claim 15, wherein said reference circuit comprises:

an output transistor having a base, collector and emitter; and

a current device coupled with said base and collector for providing a compensation current to base.

Claim 17 (currently amended): A preamplifier for driving an H-bridge switching circuit in a disk drive system, comprising:

a write drive circuit couple with said switching circuit and having transistor devices for providing current to said switching circuit;

a pre-drive circuit coupled with said write drive circuit for providing an amplified signal thereto and having a pair of voltage follower devices coupled in a cascade arrangement; and

a reference circuit coupled with said pre-drive circuit for providing a differential ECL data signals to said pre-driver circuit,

wherein said reference circuit comprises:

an output transistor having a base, collector and emitter; and

a current device coupled with said base and collector for providing a compensation current to base.

~~The preamplifier of Claim 16,~~ wherein said reference circuit further comprises a Class AB operable current mirror coupled with said transistor emitter for stabilizing the voltage at increased switching speeds.

Claim 18 (original): The preamplifier of Claim 11, wherein each of said write drive circuit transistor devices comprises a pair of transistors each having a base, collector and emitter, wherein said bases and collectors are coupled in parallel and said emitters are coupled to bias resistors for reducing self-heating effects.

Claim 19 (original): A method for providing a current for driving an inductive head of a disk drive system responsive to a control signal, comprising:

providing a reference signal responsive to said control signal, said reference signal is provided via an output transistor having a base, collector and emitter; wherein a compensation circuit is coupled with said base and collector for providing a compensation current to said base and a Class AB operable current mirror is coupled with said emitter for stabilizing the voltage;

amplifying said reference signal via transistors operably arranged in a Class AB biasing arrangement; and

providing said amplified signal as a current signal to a switching circuit for switching current polarity through said inductive head, wherein said switching circuit has upper pair of switching devices and a lower pair of switching devices coupled in a conventional H-bridge arrangement.